190 SL — The car that could replace the Packard...

SCI

ROAD TEST: THE MERCEDES DETROIT MAY BUILD

Silhouetted by lake reflection, the squatting 190 SL gives the appearance of quality, yet hand-rubbed finish is disappointing.

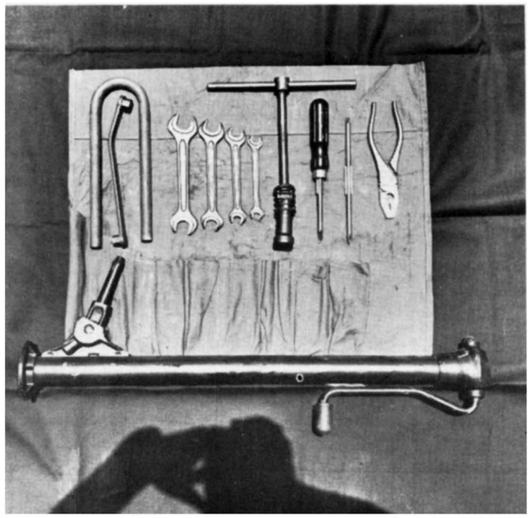
NOT since the Steinway piano people made a Mercedes under license around 1904 has a car bearing the three-pointed star been manufactured in this country. Now, some two years over a half-century later, Mercedes cars will again roll from American assembly lines. Certain licensing rights in this country have for some time been held by the Curtiss-Wright Corporation and now that the Studebaker-Packard Corporation has been taken over by Curtiss-Wright, those rights plus others will allow the aircraft engine firm to produce some varieties of the Mercedes line, using Packard's excellent manufacturing facilities. These will have enough quality-control features to satisfy even the men from Stuttgart. C-W President Roy Hurley's own enthusiasm coupled with the fact that the Mercedes 190SL is the most popular of the Daimler-Benz line in the U. S. make it almost a certainty that the sleek little convertibles will have a healthy portion of the plant. Although the earliest versions of the 190SL to reach American customers had several bugs, these have been completely designed out of the latest model. Here, then, is Griff Borgeson's report on the car that may well be rolling from Detroit production lines within a year.

— The Editors

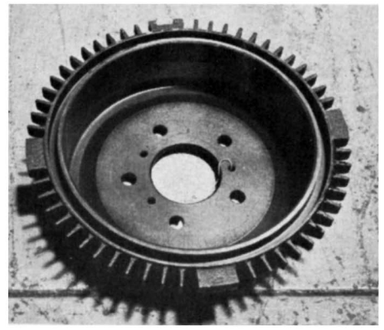
MAKING the long, hard descent from an automotive Nirvana back to plain hack iron is always a jolt, and you learn to expect it—especially with Daimler-Benz products. There's a kind of monotony to testing cars marked with the three-pointed star. D-B technicians have a way of grasping the guts of a problem and solving it with such success and apparent ease that the result is downright intoxicating for the appreciative driver. The post-Mercedes withdrawal pains are tougher to take than most.

But I wasn't expecting them with the 190SL. After living with a couple of 300SL's, I made the mistake of assuming that the "lesser" car would be a letdown. I was wrong. The 190SL is just as exciting, in a quieter, more subtle way, as the 300SL, and it's my feeling that for most mortals it's actually a more desirable car.

In the 300SL you're over-gunned for the road. In the 190 you're armed just right. It corners more securely than the 300SL, it has the same excellent steering, a similar full-synchro gearbox, the same quality finish throughout, and better rear suspension. Its beauty of line and many of its



An adequate selection of tools comes with the car. The T-shaped wrench with spring is for plugs. U tool is wheel-mounting fork. Jack is quality equipment.



Deep transverse fins mark the 190 SL brake drums. Stock drums are cast iron, A1-Fin front drums are optional.

Here the car takes the test curve at 60 mph. There is almost no roll to the body giving it a flat ride. It has that well-braced feeling in corners.

Charging on a dirt, washboard road, the 190 glides over the rough terrain with surety and without discomfort to the passengers.

dimensions are closely similar to those of the 300SL, but it's a car that you might not mind turning your wife loose with —something not many 300SL owners are doing, you can bet. For a sports-touring car—not a competition car—the 190SL is about as close an approach to perfection as any of us are likely to see, and for the kind of connoisseur's car it is, it's not expensive. But if you want a car for winning Class E races, keep looking; this is not the machine.

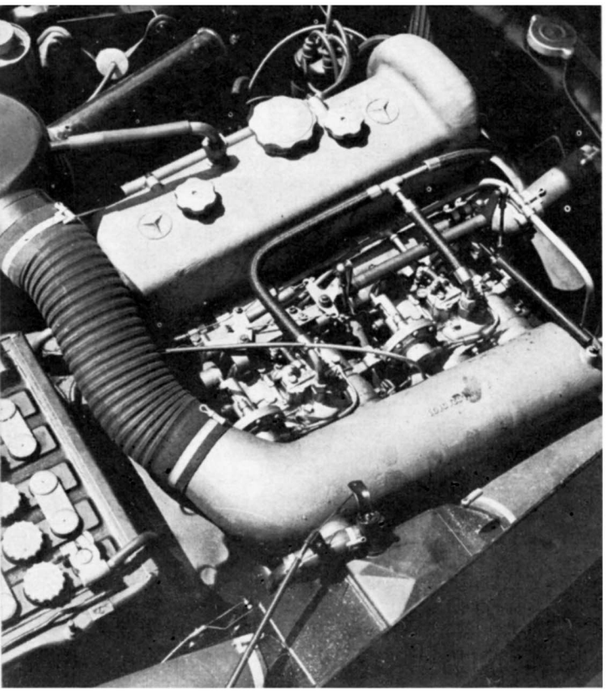
The 190SL is a high-performance *luxury* two-seater, built to the highest standards of quality and finish. The way it's made is just about flawless, its behavior is impeccable. It's a car that steers, stops and goes precisely as you want it to. It has no surprising little tricks when the going gets exciting. It's totally on the side of the driver, protecting him, keeping him covered, keeping him out of trouble. It's sound and safe as a car can be. You've heard people speak of cars as "sweet." This is a real sweet one.

Our test car had a glaring fault shared by other 190SL's we've seen. The paint job was completely out of character with the quality of every other part of the car. The paint had been rubbed, all right, but only on the obvious high spots; the orange-peel effect elsewhere was bad. The only other flaws in the car were in the speedometer. One was infinitesimal: the paint had chipped off the needle at the point where it contacts the zero peg. The other was that the instrument was fast—to a point. All the way up to 90 it had a healthy percentage of optimism. But at an indicated 100 mph, it suddenly became conservatively accurate. We doubted our readings, re-ran the calibration runs, got the same results.

This is no less confusing than the factory's performance figures for the 190SL, which keep changing from time to time, apparently reflecting changes in gearbox and final drive ratios and such refinements as improved carburetor venting. When the car was first introduced in September, 1953 (simultaneously with the production 300SL), the figure for power output was 120 bhp at 5700 rpm with an 8.5 compression ratio. Later this became 125 bhp at 5500 rpm with 8.0 c/r, and has now levelled off at 125 at 5700 with an 8.5 c/r. Top speed was first quoted at 118 mph, then revised down to 112

Front view is neat, clean, and uncluttered. Guards are durable against bumper bumpers.

At least half of the engine compartment is taken up by the induction system. Twin Solexes feed the engine, and fuel injection is future thought.



mph, both figures for the car with 3.7-to-1 final drive ratio. At around the same time, third gear was said to be good for 90 mph, second for 57, first for 33. The speeds-in-gears in the current literature are about right for the 190SL, as it's being built today: 74 in third, 47 in second, 30 in first. The owner's manual now states that top speed for the car with 3.89 rear-end is about 105 to 111 mph, with the optionally-available small competition-type windscreen.

With a normal windshield and with top and windows up we clocked an easy 104.5 mph, meaning that the engine had to be turning about 5750 rpm. At this time, the test car had been driven just about 482 miles, and even though 190SL engines are fully broken in at the factory, some of the horsepower was getting used to break in bearing surfaces in the drive line and wheels. The car definitely has a higher potential top speed. However, if the tach could be red-lined at 6000 this would give 108.8 mph and to get up to 111 you'd have to wind out to 6120 rpm, which this engine is not yearning to do in top cog. It tightens up suddenly right around 6000. When, for example, we ran it up to about 6500 in second during acceleration tests, we heard an alarming machine-gun hammer from the valve gear—which of course had every right to be there. However, when Harold Cook, Mercedes boss man on the Coast, handed us the car, he said, "Thrash it and get good figures—nothing in this engine is going to break."

Daimler-Benz builds it so it won't. The 190SL engine is much like the 300SL's. It has the same single overhead camshaft, the same big bore and short stroke, and most of the same details of design. It has two cylinders less, though, and while the longer 300SL crankshaft is supported by a main bearing at each side of each throw, seven in all, the shorter 190SL crank gets along nicely with its three mains. Both engines have oil coolers, but the 190's instrument panel has no oil temperature gauge. Some drivers will probably be unenthusiastic about the fact that the 190SL's oil pressure gauge spends most of the time riding the righ peg at 90 psi, will have visions of jammed by-pass valves and washed-out bearings. But those acquainted with aircraft practice are likely to nod approvingly and conclude that the engine is built to last. At or near 90 is where this engine's pressure is intended to stay, except in the low-rev range.

The induction system occupies about half the engine space, and the pair of intricate, costly twin-thread Solexes and their massive intake duct are more impressive to look upon than any fuel injection setup. If you leaf through the magnificent parts catalog that comes with the 190SL, you'll see two distinct types of carburetors pictured. Those with the flat-bottomed ports are the ones in current use. The change was made chiefly in the interest of venting "puddled" fuel away from the engine. In spite of this recent refinement, though, there have been urgent rumors in recent months that 190SL's will be coming through with fuel injection soon. We bird-dogged the gossip and came up with this consensus, "Maybe it's coming, but it will be a long time. The car goes good, real good, right now. It sells good now. No, no fuel injection for a long time."

The engine is awfully strong. You don't have to use first to make a getaway from standstill. You can let the clutch right out and pull away in second. You can slip the clutch a little and pull away in third. You can slip it more and pull out without bucking in fourth—pretty good for 1897 cc. The engine doesn't vibrate, doesn't have throb you learn to expect from a four. It's quieter, in spite of the overhead cam, except above about 80 mph, when it begins to emit a powerful lovely moan. There's not the pronounced sag and then the sudden rise in output that you get with radical valve timing, although the engine begins to run at its smoothest at about

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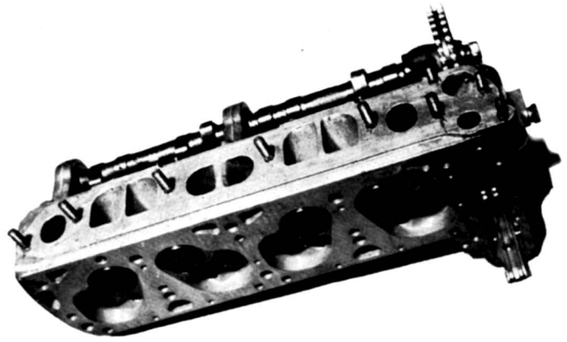

The 190 SL head shows a strong resemblance to the 300 SL head. Note the offset between the intake and exhaust valves.

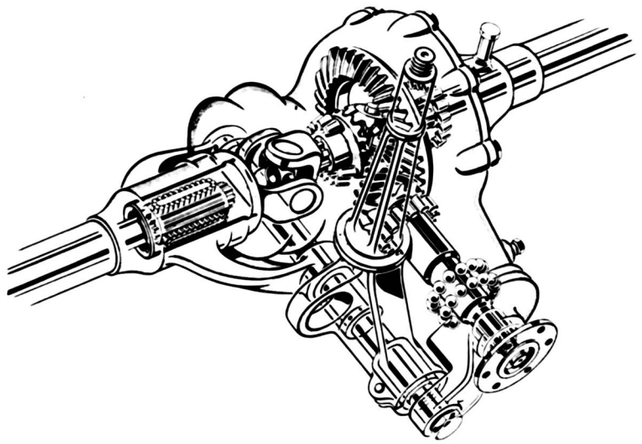

Diagram of the single pivot axle setup. Unit is secured to frame by means of vertical bracket in foreground, and swings on pivot.

Occasional seat at rear will carry no more than one adult passenger or two small children with pets. A foot-well is provided for the rear rider.

PERFORMANCE

TOP SPEED:

Two-way average	103.6
Fastest one-way run	104.5

ACCELERATION:

From zero to	
30 mph	3.7
40 mph	6.1
50 mph	7.8
60 mph	11.0
70 mph	15.1
80 mph	23.3
90 mph	32.0
100 mph	52.1
Standing ½ mile	18.1
Standing mile	48.6

CHASSIS:

Wheelbase	94.5 ins.
Front tread	56 ins.
Rear tread	58 ins.
Suspension, front	Independent, coil springs and wishbones
Suspension, rear	Independent, coil springs and single-pivot swing axle
Shock absorbers	Double-acting hydraulic
Steering type	Recirculating ball
Steering wheel turns L to L	3.23
Turning diameter	36 ft.
Brake type	Hydraulic, "turbo-cooled" drums; 2 leading shoes at front
Brake lining area	150 sq. ins.
Tire size	6.40 x 13

GENERAL:

Length	165 ins.
Width	68 ins.
Height	52 ins. with top up
Weight, test car	2550 lbs. (full fuel tank)
Weight distribution, F/R	52.5/47.5
Weight distribution, F/R, with driver	Same
Fuel capacity — U.S. gallons	17.2

RATING FACTORS:

Bhp per cu. in.	1.04
Bhp per sq. in. piston area	3.42
Torque (lb-ft) per cu. in.	.872
Pounds per bhp — test car	21.4
Piston speed @ 60 mph	1815 fpm
Piston speed @ max bph	3125 fpm
Brake lining area per ton (test car)	118 sq. ins.

SPEED RANGES IN GEARS:

I	0-30
Ii	0-50
III	11-70
IV	13-max.

SPEEDOMETER CORRECTION:

Indicated	Actual
30	28
40	37
50	46
60	55
70	65
80	74
90	83
100	99

FUEL CONSUMPTION:

Hard driving	17.0 during speed tests
Average driving (under 60 mph)	28.2

BRAKING EFFICIENCY:

(10 successive emergency stops from 60 mph, just short of locking wheels, using Perfometer)

1st stop	55 percent
2nd stop	54 percent
3rd stop	50 percent
4th stop	49 percent
5th stop	45 percent
6th stop	45 percent
7th stop	44 percent
8th stop	45 percent
9th stop	45 percent
10th stop	44 percent

SPECIFICATIONS

POWER UNIT:

Type	In-line four
Valve arrangement	Single overhead camshaft, vertical valves
Bore & Stroke (Engl. & Met.)	3.34 x 3.29 ins./85 x 83.6 mm
Bore/Stroke Ratio	0.98 to one
Displacement (Engl. & Met.)	115.8 cu. ins./1897 cc
Compression ratio	8.50
Carburetion by	Dual twin-throat Solex side drafts
Max. bhp @ rpm	120 at 5700
Max. torque @ rpm	101 at 3800
Idle speed	Cool 900 rpm; warm 1350 rpm

190SL

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2500 rpm. The idle is a shade on the rough side and we found the idle speed to vary from about 900 to 1400 rpm, depending on engine temperature. The faster the idle, the smoother, of course.

A bonus of this well-behaved engine is that you can get really good gas mileage if you want to drive for it. On a 48-mile run, about half of it in city traffic and the rest on the highway at 55 mph, we used 1.7 gallons of fuel, equalling 28.2 miles per gallon. Even so, we had made free use of the car's acceleration for passing and getting away from signals. More conservative driving ought to yield four or five mpg more.

An important part of the 190SL's "sweet" character comes from its clutch and gearbox. The clutch is very soft and gentle yet it bites with absolute firmness. The transmission has baulk-ring synchromesh even on bottom gear, and the synchronization never fails. We felt a pronounced heaviness to the gear-change mechanism that we're assured diminishes with accumulated miles, but part of this heaviness is deliberately built in. You can't force a shift with this box. Try to make a fast, slicing gear change and you meet unyielding resistance—until gear speeds are equalized, which takes a half-second or so, and then the lever slips right into its gate. On downshifts you can spare the synchro mechanism and make quicker changes with the double-clutch technique. The transmission is foolproof, one of the nicest there is, and the shift lever is ideally located, right at hand in all positions.

An interesting point is that if you shift to fourth at 50 mph or so, letting the clutch out fast and hitting the throttle, you'll hear a pretty little squeak from the rear tires. This is not so much a result of engine torque as it is of the 190SL's fine single-pivot swing axle, which it shares in modified form with the 2.5 liter grand prix car and the 300SLR sports-racing car. When we asked factory technicians to account for the fact that the 190SL's cornering manners are superior to the 300SL's, they said immediately, "Why, it's the new rear end, of course." Oddly enough, the 300SL still makes do with the older, more complicated double-pivot axle, which has a higher center of gravity.

The total axle assembly is mounted to the chassis at three points. One point is the central pivot bracket at the bottom of which is the pivot journal or shaft. This bracket is bolted to a frame cross member but is insulated from the frame by a laminated rubber bushing. Each of the half axles is mounted on the pivot shaft and is free to rock vertically on it. Rubber buffers limit vertical axle travel and torque arms anchored to the frame side members provide the other two mounting points of the rear axle assembly. These arms carry the springs and control fore and aft axle motion and torque reactions.

The rest of the 190SL chassis derives largely from the 180, in which the frame and floor form a unit and a separate, very stiff U-section cross member carries the front of the engine, all of the front coil spring-and-wishbone suspension, and the bulk of the steering mechanism. Rubber pads lie between the cross member and the frame-floor. The main purpose of this arrangement at the front end is to provide the best possible suspension and steering geometry while also insulating the rest of

the car against suspension vibrations.

It performs this job very effectively, but so do the suspension systems in quite a few other makes. Where the 190SL chassis really shines is in roadholding on curves and straightaways at high speeds. It squats close to the ground and tracks true on the straights like the 300SL. It stays glued in the turns better and its resistance to power slides is far, far greater. You'd have to be driving way beyond the limits of common sense to get into trouble with the 190SL.

The steering is typical Mercedes-Benz. That means it's on the heavy side, quick and free of backlash. The gearing is of the recirculating-ball type, probably the costliest and best there is. The pitman arm is a forging massive enough to go on a 20-ton truck. A tubular shock absorber is built into the linkage to absorb road vibrations, and in the steering is self-centering. There is no wander or wobble at high speeds.

Just as the 190SL's available power, roadholding and steering inspire a profound sense of security, so do its brakes. However, although these resemble the brakes of the 300SL, they have about 108 sq. ins. less lining area and are therefore just extremely adequate in performance, rather than fantastic. They have two leading shoes at the front and the smoothly progressive action that this implies. The price you pay for this convenience is that when you back down a steep hill, only the rear brakes are operative; it takes strong pedal pressure to slow the car. Our test car was equipped with the optionally-available vacuum booster and Al-fin front drums. During the standard ten-stop fade test there was a ten percent loss of braking power in the first five stops; after these braking power remained constant.

The 190SL is a very spacious car. The semi-bucket seats will carry no more than two plus a small dog; but the space behind them will accommodate one adult or as many as three kids on short trips. A neat, upholstered occasional seat for this space is an optional extra, and a foot-well is thoughtfully provided in the rear for the comfort of the occasional passenger.

As is often the case with cars that are small by U.S. standards, luggage space is startingly large when you actually get down to loading it. You can get attractive fitted luggage with the 190SL—two big suitcases that fit behind the seats and three more that fit the rear compartment with room to spare.

Daimler-Benz, unlike other manufacturers, is willing to admit that a car is occasionally a cranky device, and that it will perform better and last longer when you face the fact and take appropriate steps. With other new cars, for example, the makers urge you to turn the key and take off without a moment's concern for the innards. In the 190SL handbook, on the other hand, D-B advises, with some sternness and much honesty:

"Attention! In order to check lubrication of the engine, every vehicle and every engine which has been laid up for more than three weeks or which has been transported for such a period should be started as follows: 1. Take off distributor cap. 2. Declutch and turn the engine with closed throttle by means of outside or own battery until oil pressure is indicated. Note—the battery must be fully charged; do not exhaust it completely, but allow to recuperate. 3. Replace the distributor cap. 4. Pull the choke and start as usual."

The theory behind all these directions and the elaborately worked-out maintenance program is that if the owner will follow them, he'll never have a moment's trouble with his car. In the 190SL this contributes on a more or less subtle psychological level to a sense of security and perfection that grows on you every hour you drive the car. It's more than just pleasant; it's habit-forming. #